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Living Here, Born There:

The Economic Life of Australia's Immigrants

Vani K Borooah and John Mangan[1]

Abstract

This paper examines the economic, principally labour market, success of Australia's immigrants across ethnic groups in Australia using unit record data from the 2001 Census of Population and Housing. The 2001 Census is distinguished from earlier Census in Australia by information on the ancestry of an immigrant as well as their place of birth and/or point of departure to Australia and therefore allows much greater concentration on the role of ethnicity in economic success. Immigrant outcomes, in terms of income, labour market status and occupational attainment are compared to those born in Australia and the determinants of these outcomes are examined using econometric methods.

Key Words: Immigration, Ancestry and Labour Market Performance

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Introduction

Australia has one of the highest proportions of overseas born persons in the Western World (approximately 22 per cent), which compares with Canada (18.4 per cent), the United States (11.4 per cent) and the UK (10.0 percent). It also has one of the highest rates of ethnic diversity among its resident population.[2] However, this has not always been the case with the history of immigration to Australia being subject to a series of significant policy changes concerning both the size of the immigrant intake and the desired ethnic mix.[3] While Australia had a steady stream of migrants from the UK and Ireland since its inception and pursued strongly after World War 1 with schemes such as the Empire Settlement Scheme[4] designed to boost immigration by British subjects, the immigrant boom in Australia began in earnest after World War 2 with a wave of immigrants from Europe, especially Italy and Greece. Immigration in this period was closely identified with the need to increase Australia's population for defence and economic reasons. The post-war migration program was designed to increase Australia's population by 1 per cent per year and in so doing underpin a target growth rate of 2 per cent per annum.[5]

Ethnicity and race featured prominently in the initial design of the early Australian Immigration programs. The strong initial preference was for whites who were also British citizens. Australian nationality was also made difficult to achieve with the Commonwealth Naturalisation Act originally written in 1903, but modified in 1916, stating that naturalisation would not be granted unless applicants renounced their own nationality, made clear their intentions to become naturalised and we able to read and write English. Aliens were defined as those who were not British citizens, until 1948, or Non-Australian citizens, after 1948. During the 1950's, the importance of British or British Commonwealth status was reduced and assisted passage agreements were negotiated by the Australian Government with the Netherlands, Italy, USA, Switzerland, Denmark, Norway, Sweden and Finland.

[2] Numerically 10 countries dominate as a source of immigrants. These being, in order of importance, are United Kingdom, New Zealand, Italy, Vietnam, Greece, China, Germany, Philippines, Netherlands and India. However, the ethnic diversity goes much deeper than this. Over 200 languages are spoken and the top 5 non-English languages spoken; Greek, Cantonese, Arabic and Vietnamese are each spoken by more than 100,000 persons.

[3] For a historical overview of Australia's immigration programs see, Department of Immigration and Multicultural and Indigenous Affairs (DIMIA) (2003)

[4] This scheme set out a process whereby Britain and the host dominion were to share equally in the cost of promoting migration from Britain.

Conditions for entry and stay of migrants from a non-European background were also eased but this period but also saw the introduction of infamous dictation test which allowed immigration officials to refuse entry to any person who failed a dictation test in any language chosen by the official. The dictation test has been seen, perhaps incorrectly, as the main policy instrument of the White Australia Policy.

The period 1960's to 1972 saw the removal of most barriers placed on the immigration of non–whites, initially through the removal of all restrictions on non-assisted immigration and later the extension of the immigration assistance packages to all persons on the basis of their attributes rather than their ethnicity. These attributes were evaluated through the introduction of the numerical multifactor assessment system (NUMAS), which gave weight to factors such as family ties, occupation and language skills as predictors of the likelihood of successful settlement and therefore of acceptance into the immigration program.

After a relatively slow build up, Asian migration grew substantially rapidly with the arrival of large numbers of Indo-Chinese refugees from Thailand in 1976 and Vietnam, after 1977.[6] In the 1980's and 1990's Asian migration increased, with substantial numbers coming from Sri –Lanka, and the Indian sub-continent as well as a growth in arrivals from South American countries such as El Salvador. In 1995, for the first time, New-Zealand born persons, including large numbers of those with Polynesian ethnicity became the largest group of settler arrivals, replacing the UK as the largest single source of immigrants.

Another central theme in the Australian Immigration policy has been the segmentation of immigrants into one of three main types; business and skills related, family reunion and humanitarian, with increasing emphasis on the first category. The desire to attract skilled and entrepreneurial migrants has surfaced in a number of programs, including the "Skills Transfer Scheme" (1987), the Priority Occupations List (1991) and the Employer Nomination Scheme (2000). The skills component of the immigration also picked up markedly during this period. Of the 2000-2001 Migration (non-Humanitarian) programs, 45,500 or 54% of the total program was made up from the Skills Stream Program. The final main determinant of the Australian migration program is humanitarian reasons. This had two distinct

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[5] See, DIMIA (2001) p. 3

[6] The size and speed of the Vietnamese migration led to the development of an "Orderly Departure Program" between the two governments and was also designed to reduce the incidence of unauthorised arrivals of "boat-people" in Australia.

aspects. The first was family reunion, (beginning with Operation Reunion in 1956), whereby family members may be offered places in Australia despite not fulfilling standard migration conditions, because of their family connections to those who had successfully entered Australia under the various skill or business development programs. The increase in the relative importance of this component in the late 1970,s caused some concerns among those fearful of a dilution of the skill mix and therefore the integrity of the immigration program, and these concerns led to a significant downscaling in the relative importance of the family-reunion program in the 1990's. The second aspect was in specific response to world events and tragedies. Beginning in 1947, 12,000 displaced persons from World War 2 were granted special exemption from the normal migration criteria and this was to be repeated for refugees from the Hungarian Uprising (1956), Chilean refugees in 1973, Lebanese refugees in 1976, And Vietnamese Boat People in 1979/80 and students in 1989 who feared returning to China after the Tiananmen Square incident.

While all of these streams still exist to some extent in the Australian Migration mix the policy in recent years, beginning in 1996, have been dominated by labour market and skill/ business related immigration. For example, post 1996, there has been an overall reduction in the total size of the migration (non-Humanitarian) program from the previous 82,000 persons per annum to 74,000 persons, accompanied by a 30% increase in the relative importance of the skills intake and cap of 12,000 per annum placed on the entire humanitarian program.

Given the shifts in immigration policy, and the consequent shift in migrant composition, it would not be surprising that migrant labour market outcomes would also vary over time both in comparison to other immigrants and the host population. A number of studies that have recently investigated the relative labour market performance of immigrants have born this out. For example, studies by Borjas, (1994, 1999) and Blau (2003) for the United States and Wheatley Price (2001) and Dustmann and Fabbri (2003, 2005) for the United Kingdom have attested to the heterogeneity of economic outcomes among immigrant groups, particularly in comparison to the native born population.

These studies provide useful points of comparison for the results derived in this paper. In particular the Dustmann and Fabbri (2005) study of immigrants in the UK is of interest, because of the common cultural heritage between Australia and the

UK. The authors drew on data from the UK Labour Force Survey over the period-1979-2004 to provide an empirical picture of labour market outcomes of immigrant groups in Britain relative to the British-Born White Population. Although the relative incidence of immigration has been historically lower in the UK than Australia this is changing as Australia has moved to a more selective immigration program and the UK has faced higher internal migration pressures from newer members of the EU. As a result the rate of immigration to the UK has increased considerably in recent years. For example, more than 1/3 of all working age immigrants living in Britain in 2004 have arrived over the last 10 years. As in Australia the racial characteristics of immigrants coming to the UK has also changed considerably. In the former there had been a shift towards Asian migration, whereas in the latter many of the new arrivals were from the Old Commonwealth, EU and (Non-EU) Poland.

A number of other similarities exist between the immigration programs in Britain and Australia. Immigrants in both countries have a younger age profile than the resident population. For example in the UK, 27% arrive before age of 16 and in Australia the comparable figure is 23%. As well, new arrivals in both countries appear to have an education advantage over the indigenous population with the immigrant community having 5% more graduates than white-British-born and a 3% advantage over Australia-born, respectively. In both Australia and the UK immigrants are heavily concentrated in the largest cities. Sydney takes 1/3 of all immigrants (on arrival) within Australia and it is estimated that, of those that originally go elsewhere, especially to rural Australia, a very high percentage migrant eventually find there way to Sydney, Melbourne or Brisbane. In the UK immigrants are heavily concentrated in London. For example, in 2004 8% of British born whites of working age lived in London compared with 45% of Foreign born.

Yet there are some differences. In the UK, the labour market outcomes of immigrants appear to take a more traditional route, with employment and participation of foreign-born ethnics lower than overseas born whites, which have similar outcomes to British Born Whites. By contrast, it was found that immigrants in Australia, particularly new arrivals, had higher incidence of overall employment and participation than the resident white population. In other words there does not

appear to be an overall ethnic penalty to non-white immigrants in Australia (Borooah and Mangan, 2006).

In the UK, women from Bangladeshi and Pakistani communities have the lowest participation rates and Black Africans, Bangladeshis and Black Caribbean males also fare relatively badly, with males from the former Warsaw Pact countries the most disadvantaged. Dustmann and Fabbri (2005) also report a high incidence of self-employment among immigrants with Pakistanis, Afro-Caribbean's and Chinese most likely to be self-employed. In Australia, those that fare worst in the labour market are not immigrants of any ancestry but Aboriginal and Torres Strait Islanders or indigenous Australians, (Borooah and Mangan 2002, 2006). The main conclusion from the above discussion is that Immigrants to Australia share some characteristics with immigrants in other countries but there do appear to be some country specific differences. An examination of the new data source, with its magnification of ancestry characteristics may help explain some of these differences.

The paper proceeds in the following way; section 2 examines the descriptive data on immigration to Australia using the 2001 Census. The 2001 Census is distinguished from earlier Census in Australia by information on the ancestry of an immigrant as well as their place of birth and/or point of departure to Australia and therefore, use of these data add an extra dimension to the role of ethnicity and culture in determining labour market outcomes. In this paper, migrants are categorised as either *settled migrants* (arriving before 1996) or *new* migrants, being those that arrived after 1996. Both these immigrant categories are compared to those born in Australia in term of income, labour market status and occupational attainment. In section 3, the determinants of these immigrant outcomes are tested using econometric methods. Section 4 analyses these results and section 5 contains the summary and conclusions.

2. Immigrants in Australia

We define immigrants as all those living in Australia who were born outside Australia and distinguish between "settled" immigrants - those who came to Australia before 1996 and had, therefore, been in Australia for more than five years prior to the 2001 Census - and "new" immigrants - those who came to Australia after

1995 and, therefore, had been in Australia for five years or less prior to the 2001 Census. Importantly, the 2001 Australian Census, for the first time, contained a question on the ancestry of the respondents. Using these responses we distinguished immigrants according to their ancestry.[7] This was slightly different from classifying (as in Britain) immigrants according to their country of birth. For example, an Indian born in Kenya would be classified in this paper as an "Indian immigrant" while in Britain he/she would be regarded as an immigrant from Kenya. In situations in which ancestry and country of birth were in conflict, it seemed to us that ancestry would, arguably, have a greater role to play in determining the fortunes of immigrants than their country of birth: consequently, we opted to distinguish between immigrants according to their ancestry rather than their country of birth.

Table 1 shows that two groups dominated the number of new immigrants to Australia: 23 percent of the 5,923 new immigrants to Australia in our sample were British or Irish and 19 percent were Chinese. If one considers all of East Asia, then 34 percent of new immigrants to Australia were from this area (Vietnamese, Filipinos, Chinese, and other East Asians). In addition, 11 percent of new immigrants were from South Asia (Indians, and other South Asians) and 5 percent were from North Africa and the Middle East. So, all in all, Asia and the Middle East supplied half of all new immigrants to Australia. By contrast, persons from Asia and the Middle East were only 26 percent of the 31,656 settled immigrants in the sample (the Chinese providing 9 percent) with 18 percent of such immigrants being British or Irish and 30 percent being European.

Table 2 shows the proportion of immigrants who lived in "low income" households (household income less than half the median Australian household income of $650 per week) and "high income" households (household income more than twice the median Australian household income of $650 per week). Of the new immigrants, 56 percent of Lebanese, 42 percent of North Africans, 41 percent of Vietnamese, and 39 percent of Other South Asians lived in low income households while, at the other end of the income scale, living in high income households, were: 67 percent of Poles, 58 percent of New Zealanders and British/Irish, over 50 percent of North and East Europeans, and 50 percent of Indians, Chinese and Americans.

[7] The 2001 Census asked about the primary and secondary ancestry of the respondents; our classification of immigrants was based upon their primary ancestry.

Table 2 identifies those groups for which, compared to their settled counterparts, new immigrants did better in terms of household income and those groups for which new immigrants did worse. Most of the new immigrant groups doing *worse* than their settled counterparts were from Asia and the Middle East: 42 percent of new (compared to 37 percent of settled) North African immigrants and 41 percent of new (compared to 29 percent of settled) Vietnamese immigrants were in low income households; at the other end, 20 percent of new (compared to 30 percent of settled) North African immigrants and 22 percent of new (compared to 36 percent of settled) Vietnamese immigrants were in high income households.

Most of the new immigrant groups doing *better* than their settled counterparts were from Europe: only 14 percent of new (compared to 33 percent of settled) British or Irish immigrants were in low income households; at the other end, 58 percent of new (compared to 37 percent of settled) British or Irish immigrants were in high income households.

Table 3 shows the employment rate (i.e. employed persons - employer, employee, own-account worker, and contributing family worker - as a proportion of all respondents) and unemployment rate (i.e. jobless and searching as a proportion of those in the labour force[8]) of the different immigrant groups. In aggregate, 51 percent of new immigrants were employed, with an unemployment rate of 14 percent, compared to an employment rate of 61 percent, and an unemployment rate of 7 percent, for Australian born persons. While 71 percent of new British and Irish immigrants were employed, with an 8 percent unemployment rate, only 31 percent of new Vietnamese immigrants were employed, with an unemployment rate of 38 percent, and only 31 percent of new North African and Middle Eastern immigrants were employed, with an unemployment rate of 35 percent.

Compared to their new counterparts, settled Vietnamese immigrants and settled North African and Middle Eastern immigrants had much higher employment rates (52 and 48 percent, respectively), and significantly lower unemployment rates (12 and 17 percent, respectively). By contrast, compared to their new counterparts, settled British and Irish immigrants had a much lower employment rate of 57 percent. However, new and settled British and Irish immigrants had virtually the same unemployment rate (6-8 percent) suggesting that the lower employment rate of

[8] The labour force is all those persons either employed or searching for employment.

settled British and Irish immigrants, compared to new British and Irish immigrants, was due to a higher proportion of retired persons in the former group.

Table 4 examines the occupations of employed immigrants in terms of the two ends of the occupational spectrum: professional/managerial occupations; and elementary workers and labourers. This table shows that the occupational structure of immigrants has not changed appreciably over time: 44 percent of employed new immigrants, compared to 42 percent of employed settled immigrants, were in professional/managerial occupations; and 22 percent of employed new immigrants, compared to 17 percent of employed settled immigrants, were in elementary occupations.

However, this aggregate picture masks inter-ethnic differences. Sixty percent of new North European immigrants, and over half of new British and Irish immigrants, who were in employment were employed in professional/managerial occupations and these proportions were higher than the corresponding proportions for the settled immigrants from these groups. On the other hand, 44 percent of employed Chinese new immigrants, compared to 49 percent of employed Chinese settled immigrants, were in professional/managerial occupations. This would suggest that, in terms of occupational class, new immigrants from Western Europe were doing better, but that new immigrants from Asia were doing worse, than their settled counterparts.

The educational levels of immigrants are shown in Table 5. This shows very clearly that new immigrants to Australia, *over the age of 24 years*, had much better educational levels than similarly aged settled immigrants: 36 percent of new immigrants, compared to 17 percent of settled immigrants, had degree/post-graduate level qualifications and 40 percent of new immigrants, compared to 58 percent of settled immigrants, had lower than Certificate level qualifications. Among the settled immigrants, the best-educated groups were the Filipinos and the Indians with, respectively, 41 and 49 percent of over-24 year olds having higher educational qualifications. By comparison, only 17 percent of settled British and Irish immigrants, and less than 5 percent of settled Italian and Greek immigrants, had higher educational qualifications.

The housing conditions of immigrants are shown in Table 6. In aggregate, 70 percent of Australian-born persons and 74 percent of settled immigrants lived in owner-occupied dwellings and only 17 percent of Australian-born persons and 20

percent of settled immigrants lived in "small" homes (i.e. fewer than 3 bedrooms). By contrast, 34 percent of new immigrants lived in owner-occupied dwellings and 36 percent of new immigrants lived in "small" homes. Lastly, given the importance for "employability" of familiarity with information technology, Table 7 provides details of computer ownership and Internet use by immigrant group. Fifty eight percent of new immigrants used a computer at home and 60 percent used the Internet compared to 40 and 37 percent of settled immigrants and 45 and 39 percent of Australian-born persons. Of the different ancestries, Asian immigrants - and, in particular, Indians, Chinese, and Filipinos - were more "computer literate" than European immigrants: for example, 60 percent of settled Indian immigrants, compared to 43 percent of settled British and Irish immigrants, used the internet.

3. Estimation Results

The econometric equations related to four aspects of the economic life of immigrants: employment, occupational attainment (both high and low) occupational and income status.

1. Employment: The dependent variable in this equation = 1, if a person was *employed* (i.e. was an: employer, employee, own account worker, or contributing family worker); = 0, otherwise. The equation was estimated on data for the 77,323 persons who were 25-59 years of age.
2. Professional/Managerial Occupations (high occupational attainment): The dependent variable in this equation = 1, if a person was employed in a professional or management occupation; = 0, if he/she was employed otherwise. The equation was estimated on data for all 73,294 employed persons.
3. Elementary Workers (lower occupational attainment): The dependent variable in this equation = 1, if a person was employed as an elementary worker or labourer; = 0, if he/she was employed otherwise. The equation was estimated on data for all 73,294 employed persons.
4. High Income: The dependent variable in this equation = 1, if a person, employed in a professional or management occupation, had a "high income"; = 0, if a person so employed did not have a high income.[9]

[9] High income was defined as personal income which was more than twice median Australian income.

The results of estimating these four equations, all of which were estimated as logit equations, are shown in Table 8. [10] Positive (negative) coefficient estimates imply that higher values of the relevant variables are associated with higher (lower) probabilities of the outcome. Table 8 shows, firstly, that the probability of the different economic outcomes was significantly influenced by age[11], gender,[12] Internet use, education level,[13] command over English,[14] and state of residence.

In addition, a person's chances with respect to any of these outcomes depended upon his/her ancestry ("ancestry effect") with "Australian" being the *residual* ancestry. If, as in the employment equation, the coefficient associated with British ancestry was not significantly different from zero (i.e. the British ancestry effect was not significant), then this meant that *ceteris paribus* the likelihood of persons of British ancestry being employed was the same as that of persons who gave their ancestry as Australian (hereafter, referred to as "Australians"). On the other hand, when, as in the employment equation, the Italian and Maltese ancestry effects were significant and positive this meant that *ceteris paribus* the likelihood of persons of Italian or Maltese ancestry being employed was higher than that of Australians. Lastly when, as in the employment equation, the Oceanic and Lebanese ancestry effects were significant and negative this meant that *ceteris paribus* the likelihood of persons of Oceanic or Lebanese ancestry being employed was lower than that of "Australians".

After controlling for age, gender, education, and command over English, there remained, as Table 8 shows, very few ancestry effects: for example, of the 24 ancestries distinguished in the paper, the only "significant" ancestries in the employment equation were: Oceanic, and Lebanese (negative and, therefore, less

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[10] The logit equation is $\frac{\Pr(y_i = 1)}{1 - \Pr(y_i = 1)} = \exp\{\sum_{k=1}^{K} X_{jk}\beta_j\} = \exp\{z_j\}$ for M coefficients, β_j and for observations on K variables, where $\Pr(y_i = 1) = \exp(z)/(1 + \exp(z))$.

[11] The probability of being employed decreased with age but the probability of being employed in a professional/managerial occupation and the probability, if employed in a professional or managerial occupation, of having a high personal income increased with age.

[12] Compared to men, women had a lower probability of: being employed, of being employed in professional/managerial occupations, and, if they were employed in professional managerial occupations, of having a high personal income. Conversely, compared to men, women were more likely to be employed in elementary occupations.

[13] High: degree or above; Medium: Certificate or above, but less than degree; Low: below Certificate.

[14] The probability of being employed, the probability of being employed in a professional/managerial occupation and the probability, if employed in a professional managerial occupations, of having a high personal income was greater for internet users (compared to non users), for persons with educational qualifications (compared to those with no qualifications), and for persons with a good command of English (compared to those with poor English).

likely to be in employment than "Australians"); and German, Italian, and Maltese (positive and, therefore, more likely to be in employment than "Australians").

With respect to professional/managerial employment, of the 24 ancestries, the only significant ancestries were: New Zealanders, British and Irish, Greek, Lebanese, and Vietnamese. Employed persons of these ancestries were more likely to be in professional/managerial occupations than employed "Australians". Similarly, employed persons of an Oceanic ancestry were more likely to be in elementary occupations than employed "Australians". Ancestry was not a significant influence on the likelihood of persons, employed in professional or managerial occupations, having a high income.

In addition to ancestry, a person's chances with respect to all of the above outcomes depended upon whether he/she was foreign or Australian born ("immigration effect"). Table 8 shows that the immigration status of persons affected their chances of being employed (immigrants were more likely to be employed than non-immigrants) and of being employed in elementary occupations or as labourers (immigrants were more likely to be employed in such occupations than non-immigrants). The immigration status of persons was not a significant influence on their likelihood of being employed in professional or managerial occupations or, if so employed, of having a high income.

It was possible that the educational qualifications of immigrants – perhaps because, for some immigrants, these had been obtained from educational institutions abroad – were less highly rewarded than the corresponding qualifications of Australian-born persons. To allow for this, a person's immigration status was allowed to interact with his/her educational qualifications (by introducing into the equation the multiplicative terms: immigration status higher education; and immigration status×medium education.

The negative coefficient estimates associated with these immigration-education interaction terms in the employment and the professional/managerial equations implied that *ceteris paribus* immigrants with higher, and medium, education qualifications were less likely to be in employment, and less likely to be in professional/managerial employment, than similarly qualified non-immigrants. Conversely, the positive coefficient estimates associated with these immigration-education interaction terms in the elementary occupations equation implied that *ceteris paribus* immigrants with higher, and medium, education qualifications were

more likely to be employed in elementary occupations than similarly qualified non-immigrants. There was also some evidence, though it was not statistically significant, that immigrants with higher, and medium, education qualifications, in professional/managerial employment, were less likely to have high incomes than similarly qualified, and employed, non-immigrants.

The general effect of immigration on the different economic outcomes could be overlaid by the fact that the effects of being an immigrant could vary by the ancestry of the immigrant. In order to test this hypothesis, the ancestry of a person was allowed to interact with whether he/she was an immigrant (by introducing into the equations the multiplicative terms, ancestry × immigration). So, for example, if a person was an immigrant, the likelihood of him/her being employed could vary according to whether he/she was a British or a Vietnamese immigrant (ancestry-immigration interaction effect). If, in Table 8, the coefficient associated with a particular (ancestry-immigration) interaction term was positive (negative) – and significantly different from zero - then the appropriate inference is that, in terms of the outcome associated with that equation, immigrants of this ancestry were significantly more (less) likely to have this outcome, *compared to immigrants in general*.

Table 8 shows that the ancestry-immigration effects which were significant were positive and were concentrated in the elementary occupations equation: compared to immigrants in general, immigrants from a number of ancestries were more likely to be employed in elementary occupations or as labourers: South Europeans (including Italians and Maltese), South Eastern Europeans (including Greeks), East Europeans (including Poles), Lebanese, Filipinos, and South Asians (excluding Indians).

The above comments applied to all immigrants, regardless of whether they were new or settled immigrants. When settled immigrants were considered separately, a positive (negative) coefficient estimate associated with this term implies that settled immigrants were more (less) likely to have that outcome than non-immigrants. If the coefficient associated with the *settled* immigrants term was significantly different from that associated with the *all* immigrants term then this implies that settled immigrants were more (settled immigrants coefficient greater than the all immigrants coefficient), or less (settled immigrants coefficient smaller than the all immigrants coefficient), likely to have that outcome than new immigrants.

Table 8 shows that compared to non-immigrants, settled immigrants were more likely to be in employment but less likely to be employed in professional/managerial occupations. However, compared to new immigrants, settled immigrants were more like non-immigrants: they were less likely to be employed than new immigrants but, if employed, were more likely to be in professional/managerial occupations.[15] However, in another respect, new immigrants were more like non-immigrants: compared to non-immigrants in professional/managerial employment, similarly employed new immigrants were as likely – but settled immigrants were less likely - to have a high income.

4. Coefficient Differences between Immigrant Groups

The previous section analysed *all* respondents to the 2001 Australian Census, separating them by ancestry and by immigration status: in consequence, it looked at persons who had been born in, and outside, Australia. In this section we focus exclusively on immigrants and compare immigrants of different ancestries. In particular, we take Chinese immigrants[16] as our reference point and compare them, successively, with:

1. British and Irish immigrants.[17]
2. Vietnamese immigrants.[18]
3. Indian immigrants.[19]

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[15] For example, in the employment equation, the coefficient estimate on the immigrants term was 0.821 but the coefficient estimate on the *settled* immigrants term was 0.443; in the professional/managerial equation, the coefficient estimate on the immigrants term was -0.466 but the coefficient estimate on the *settled* immigrants term was -0.235

[16] There were 4,085 Chinese immigrants in the sample comprising 78 percent of the total of 5,265 Chinese in the sample. Excluding those who did not state their year of arrival in Australia, 71 percent of Chinese immigrants were settled immigrants, i.e. had arrived before 1996. Chinese immigrants constituted: 10 percent of the total of 39,160 immigrants in the sample; 19 percent of the total of 5,923 new immigrants; and 9 percent of the total of 31,565 settled immigrants.

[17] There were 13,886 British and Irish immigrants in the sample comprising 19 percent of the total of 73,605 British/Irish in the sample. Excluding those who did not state their year of arrival in Australia, 90 percent of British/Irish immigrants were settled immigrants. British/Irish immigrants constituted: 35 percent of the total of 39,160 immigrants in the sample; 23 percent of the total of 5,923 new immigrants; and 38 percent of the total of 31,565 settled immigrants.

[18] There were 1,089 Vietnamese immigrants in the sample comprising 75 percent of the total of 1,446 Vietnamese in the sample. Excluding those who did not state their year of arrival in Australia, 89 percent of Vietnamese immigrants were settled immigrants. Vietnamese immigrants constituted: 3 percent of the total of 39,160 immigrants in the sample; 2 percent of the total of 5,923 new immigrants; and 3 percent of the total of 31,565 settled immigrants.

[19] There were 1,089 Indian immigrants in the sample comprising 80 percent of the total of 1,365 Indians in the sample. Excluding those who did not state their year of arrival in Australia, 64 percent of Indian immigrants were settled immigrants. Indian immigrants constituted: 3 percent of the total of 39,160 immigrants in the sample; 6 percent of the total of 5,923 new immigrants; and 2 percent of the total of 31,565 settled immigrants.

In order to compare Chinese immigrants with immigrants of other ancestries we estimated logit equations for the four economic outcomes, detailed earlier, but this time restricting the sample to Chinese immigrants and immigrants from the relevant ancestry. For each comparison, the coefficient on every variable was allowed to differ between Chinese immigrants and immigrants from the comparison ancestry. This was affected by introducing, for every variable *Z*, the interaction term Z×Chinese: if, in a particular equation, the coefficient on the interaction term was significantly different from zero then the effect of variable *Z* on the relevant economic outcome was different between Chinese immigrants and immigrants of the comparison ancestry.[20]

Tables 9, 10, and 11 report the estimation results from, respectively, the following comparisons: Chinese-British (Table 9); Chinese-Vietnamese (Table 10); and Chinese-Indian (Table 11). A comparison of Chinese with British/Irish immigrants revealed five significant differences between the two groups:

1. British and Irish immigrant women who were employed were as likely to be in professional/managerial occupations as employed British and Irish immigrant men but immigrant Chinese women in employment were significantly less likely to be in professional/managerial occupations than their male counterparts.
2. British and Irish immigrant women who were employed in professional /managerial occupations were less likely to have a high income, compared to similarly employed British and Irish immigrant men; however, Chinese immigrant women employed in professional /managerial occupations were almost as likely to have a high income, compared to similarly employed Chinese immigrant men.[21]
3. For British and Irish immigrants, use of the internet significantly raised their likelihood of employment and significantly reduced their probability of being employed in elementary occupations. For Chinese immigrants,

[20] More formally, for a dummy variable "*Chinese*" which took the value 1 for a Chinese immigrant, 0 otherwise, the equation estimated was of the form: $y = \alpha + \alpha Z + \gamma\ (Z \times \textit{Chinese})$. The coefficient α represents the effect of a marginal change in the value of Z on the likelihood of the outcome *for immigrants from the comparison ancestry*. The coefficient γ represents the *additional* effect for Chinese immigrants.: if $\gamma=0$, then the marginal effect of *Z* is the same for Chinese and comparison ancestry immigrants; if $\gamma\neq0$, then the marginal effect of *Z* is different for Chinese and comparison ancestry immigrants.

[21] The null hypothesis that the sum of the coefficients on "Sex" and "Sex: Chinese" was zero could not be rejected: $\chi^2(1)=1.92$.

however, internet usage did not affect the probability of employment significantly[22] and internet use did reduce the probability of being employed in elementary occupations but not by as much as for British and Irish immigrants.

4. For British and Irish and for Chinese immigrants, higher education qualifications raised the likelihood of: employment; employment in professional/managerial occupations; and, for those employed as professionals or managers, a high income. However, the latter two effects were weaker for Chinese immigrants compared to British and Irish immigrants.
5. Since all immigrants of British or Irish ancestry, but very few Chinese immigrants, spoke English at home, Chinese immigrants, even when they had good English, were at a considerable disadvantage with respect to all the outcomes: purely on language skills, they were less likely to be employed, to be employed in professional/managerial occupations and, if employed in professional/managerial occupations, to have a high income.[23]

The comparison of Chinese with Vietnamese immigrants did not reveal any coefficient differences between the two ancestries (Table 10): none of the variables, in any of the four outcome equations, affected the likelihood of the outcomes differently for one group of immigrants compared to the other group.

The comparison of Chinese and Indian immigrants yielded some coefficient differences, but not as many as between Chinese and British/Irish immigrants: (i) for Indian immigrants, use of the internet significantly raised their likelihood of employment but, for Chinese immigrants, internet usage did not affect the probability of employment significantly;[24] (ii) Chinese immigrants were *ceteris paribus* more likely to be employed, and less likely to be employed in elementary occupations, than Indian immigrants; (iii) while settled immigrants were less likely to be employed in elementary occupations than new immigrants, the difference

[22] The null hypothesis that the sum of the coefficients on "internet use" and "internet use: Chinese" was zero could not be rejected: χ^2 (1) =0.13.
[23] For all the equations, the difference between the coefficients on "English spoken at home" and "good English" was significantly different from zero.
[24] The null hypothesis that the sum of the coefficients on "internet use" and "internet use: Chinese" was zero could not be rejected: χ^2 (1) =0.03.

between settled and new immigrants, in this respect, was smaller for Chinese immigrants than for Indian immigrants.

5. Attribute Differences between Immigrant Groups

The previous section focused on coefficient differences between immigrant groups. As a consequence of such differences, the effects of a change in the value of a variable, on the likelihood of a particular outcome, would differ between immigrants of different ancestries. This could explain why, say, compared to British and Irish immigrants employed in professional/managerial occupations, a smaller proportion of similarly employed Chinese immigrants had high incomes (58 against 49 percent): the labour market (as encapsulated in the coefficients) treated identical attributes differently, depending on whether they were associated with Chinese or with British/Irish immigrants.

However, another reason why the likelihood of a particular outcome might differ between Chinese and British/ Irish immigrants are that the vector of the "outcome determining" attributes might differ between the two groups. Consequently, the observed difference between the two groups in their outcomes would be partly due to differences between Chinese and British/Irish immigrants in their coefficients and partly a consequence of differences between them in their attributes.

In order to estimate the relative sizes of the "coefficient difference" and the "attribute difference" we use the following decomposition method (due to Borooah and Iyer, 2005). Suppose two groups of immigrants are being compared: Chinese (k=C) and British (k=B) and that there are a total of $N = N^C + N^B$ immigrants, θ^C and θ^B. Being the proportions, respectively, of Chinese and British immigrants, $\theta^C + \theta^B = 1$.

Let P^r represent the *average* probability of an economic outcome, this average being computed over *all* the immigrants (i.e. Chinese and British) when their individual attribute vectors (the $\mathbf{X_i^k}$) are *all* evaluated using the coefficient vector of group r ($\boldsymbol{\beta}^{\mathbf{r}}$). Equivalently, P^r is the average probability of the outcome, computed over all the immigrants, *when all of them are treated as belonging to group r*. Hereafter P^r is referred to as the group *r synthetic* outcome rate. Suppose for two groups, r and s, $P^r > P^s$. Then the difference in synthetic outcome rates, $P^r - P^s$ represents the

greater advantage (assuming the outcome is desirable!) to immigrants from belonging to group *r* compared to belonging to group *s*. This difference is identified as the "coefficients effect" because it is entirely the consequence of a given set of attributes (that of all the *N* immigrants in the sample) evaluated using different coefficient vectors.[25]

The difference between the observed outcome rate[26] (Q^C) and the Chinese synthetic outcome rate (P^C), may be regarded as being due to attribute differences between Chinese and British immigrants. More formally:

$$Q^C - P^C = \theta^B[\bar{F}(\mathbf{X_i^C}, \hat{\boldsymbol{\beta}}^{\mathbf{C}}) - \bar{F}(\mathbf{X_i^B}, \hat{\boldsymbol{\beta}}^{\mathbf{C}})] \tag{1}$$

Equation (1) says that the difference between the observed outcome and the synthetic outcome rates of Chinese immigrants ($Q^C - P^C$) is the weighted difference in average probabilities arising from Chinese and British immigrant attributes being evaluated using the Chinese coefficient vector estimates ($P(\mathbf{X_i^C}, \hat{\boldsymbol{\beta}}^{\mathbf{C}}) - P(\mathbf{X_i^B}, \hat{\boldsymbol{\beta}}^{\mathbf{C}})$, the weight ($\theta^B$) being, the proportion of British immigrants. Similarly:

$$Q^B - P^B = \theta^C[\bar{F}(\mathbf{X_i^B}, \hat{\boldsymbol{\beta}}^{\mathbf{B}}) - \bar{F}(\mathbf{X_i^C}, \hat{\boldsymbol{\beta}}^{\mathbf{B}})] \tag{2}$$

Equation (2) says that the difference between the observed outcome and the synthetic outcome rates of British immigrants ($Q^B - P^B$) is the weighted difference in average probabilities arising from British and Chinese immigrant attributes being evaluated using the British coefficient vector estimates ($P(\mathbf{X_i^B}, \hat{\boldsymbol{\beta}}^{\mathbf{B}}) - P(\mathbf{X_i^C}, \hat{\boldsymbol{\beta}}^{\mathbf{B}})$, the weight ($\theta^C$) being, the proportion of Chinese immigrants. Combining equations (1) and (2) yields:

$$\begin{aligned} Q^C - Q^B &= (P^C - P^B) \\ &+ \theta^B \left\{ P(\mathbf{X_i^C}, \hat{\boldsymbol{\beta}}^{\mathbf{C}}) - P(\mathbf{X_i^B}, \hat{\boldsymbol{\beta}}^{\mathbf{C}}) \right\} + \theta^C \left\{ P(\mathbf{X_i^C}, \hat{\boldsymbol{\beta}}^{\mathbf{B}}) - P(\mathbf{X_i^B}, \boldsymbol{\beta}^{\mathbf{B}}) \right\} \end{aligned} \tag{3}$$

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[25] More formally, $P^r = N^{-1} \sum_k \sum_{i=1}^{N_k} \left[\frac{\exp(\mathbf{X_i^k \beta^r})}{1 + \exp(\mathbf{X_i^k \beta^r})} \right] = N^{-1} \sum_k \sum_{i=1}^{N_k} F[(\mathbf{X_i^k}, \boldsymbol{\beta}^{\mathbf{r}})]$, where F(.) is the probability of the outcome associated with the vector of attributes $\mathbf{X_i^k}$ for person i in group k when these are evaluated using the vector of coefficients $\boldsymbol{\beta}^{\mathbf{r}}$ for group r, these probabilities being computed from the logit model.

[26] I.e. the proportion of Chinese immigrants with that outcome.

Equation (3) says that the difference in observed outcomes between Chinese and British immigrants ($Q^C - Q^B$) can be written as the sum of a coefficients effect and an attributes effect. The coefficients effect $P^C - P^B$ is the difference between Chinese and British immigrants in their *synthetic* outcome rates. The attributes effect is a weighted average of the difference in outcome rates when Chinese and British attributes are *evaluated at Chinese coefficients* (weight: proportion of British in the sample, θ^B) and the difference in outcome rates when Chinese and British attributes are *evaluated at British coefficients* (weight: proportion of Chinese in the sample, θ^C).

Table 12 shows the proportions of the observed outcome rates between British and Chinese immigrants that can be explained by the coefficient and attribute effects. When the outcome was employment, 76.1 percent of British immigrants between the ages of 25-59 years, compared to 67.7 percent of Chinese immigrants, were employed: of this difference of 8.4 points between the two groups, only 6 percent could be explained by coefficient differences between the groups.

There was no difference between employed Chinese and British immigrants in terms of their representation in professional and managerial occupations. However, only 14.4 percent of employed British immigrants, compared to 19.2 percent of Chinese immigrants, were in elementary occupations: of this difference of 4.8 points between the two groups, 48 percent could be explained by coefficient differences between the groups.

Lastly, 47.2 percent of British immigrants who were employed in professional and managerial occupations, compared to 34.3 percent of Chinese immigrants, had a high income: of this difference of 12.9 points, 33 percent could be explained by coefficient differences the remainder being due to differences between British and Chinese immigrants in their attributes

6 Conclusions

The paper investigated immigrant outcomes in Australia in terms of income, employment incidence and occupational access, across 2 broad occupational groupings. The analysis was assisted by the greater definition of ethnicity provided in the 2001 Australian Census whereby immigrants are now defined by ancestry as well as their place of birth or country of departure. Two broad categories of migrant were distinguished, those that arrived prior to 1996 (settled migrants) and those

arriving after 1996 (new migrants). These were compared among themselves and relative to those of residents of Australian ancestry. It was shown that the composition of immigration in Australia had changed quite markedly between the two periods with, the settled immigrants being dominated by British, Irish and European and more than half of the new immigrants coming from East Asia and the Middle East.

The descriptive data revealed some differences in economic outcomes between immigrants by time of arrival, and by ancestry. In general new immigrants did worse in terms of household income, employment status of occupation and housing conditions than local born and settled immigrants. This was particularly true for Lebanese, North African and Vietnamese, who make up a sizeable proportion of the new arrivals, but not true for "white" new arrivals from Europe, Britain and Irish and New Zealand who did equally well or better than those of Australian ancestry. The Chinese were the most successful non-white group, with 50% having professional or managerial jobs. Reflecting the changed conditions of entry, new immigrants were on average, better educated than the local population and more likely to make use of the internet.

The remainder of the paper set out to examine what factors influenced these observed outcomes and, particularly given the results on education and human capital, what role ethnicity played in these outcomes. The econometrics centred on the isolating the determining factors for employment, membership of one of the two occupational groupings and income. As noted in the introduction, a number of studies have highlighted the role of ethnicity (normally measured by country of birth), as well as other factors such as duration of stay, in determining migrant outcomes both in an absolute sense and relative to the indigenous population. This paper was interested in whether a finer definition of ethnicity, which included information on a person's ancestry, would provide a new dimension to this relationship.

In general the results suggest that the ancestry effect was not of great significance in the Australian labour market. After controlling for age, gender, education, and command over English, we were able to locate only a few ancestry effects. Across the 24 separate ancestries only persons with Oceanic or Lebanese ancestry were less likely to be in employment than "Australians" and conversely only German, Italian,

and Maltese were more likely to be in employment than "Australians". This picture changed slightly when only employment was broken up into professional or managerial occupations and elementary occupations were considered. Here, across the 24, the significant ancestries were: New Zealanders, British and Irish, Greek, Lebanese, and Vietnamese with employed persons of these ancestries more likely to be in professional/managerial occupations than employed "Australians". Similarly, employed persons of an Oceanic ancestry were more likely to be in elementary occupations than employed "Australians".

Finally, the results indicate that ancestry was not a significant influence on the likelihood of persons, employed in professional or managerial occupations, having a high income. This is not to suggest that ethnic and other immigration issues are not important in determining labour market outcomes in Australia.

Specifically, we examined a number of dimensions of the *immigration effect* The first was the influence of where a person was born, for example were the observed incomes determined by whether the individual was foreign born or Australian born?. The results were mixed. For example, immigrants were more likely to be employed than non-immigrants, such as Italians and Maltese, but they were also more likely to be over-represented in the least desirable jobs. As well, the foreign birth effect was not significant in determining either access to a professional or managerial job or in obtaining a high income once such a job had been attained.

An offshoot of the *foreign birth effect* and a possible explanation for it is the impact that country of birth has upon the value of educational qualifications obtained outside of Australia. This "foreign qualifications effect" was captured by the use of the interaction variables, "immigration status/higher education" and "immigration status/medium education".

The results obtained do offer some support for the theory that qualifications obtained overseas are devalued in Australia, with those with foreign obtained education (both higher and medium) apparently underachieving in terms of expected access to employment in general or to a professional or managerial positions in particular but over-achieving in access to elementary occupations. There was also some evidence, though it was not statistically significant, that immigrants with higher, and medium, education qualifications, in professional/managerial employment, were less likely to have high incomes than similarly qualified, and employed, non-immigrants.

The third dimension to the *immigrant effect* was ancestry. This was also measured by an interaction variable, the "ancestry-immigration interaction effect".

All the ancestry-immigration effects that were significant were positive and assigned to the elementary occupations equation. compared to immigrants in general, immigrants from South Europeans (including Italians and Maltese), South Eastern Europeans (including Greeks), East Europeans (including Poles), Lebanese, Filipinos, and South Asians (excluding Indians were more likely to be employed in elementary occupations or as labourers:

The fourth dimension to the *immigrant effect* is duration of stay. It was found that compared to non-immigrants, settled immigrants were more likely to be in employment but less likely to be employed in professional/managerial occupations. Settled immigrants also took on the characteristics of the indigenous population, being less likely than new immigrants to be employed but more likely to be in professional/managerial occupations. They were however, less likely than new immigrants to have higher incomes.

The final part of the paper considered in more detail the coefficient and attribute factors that impact on immigrant outcomes in Australia with a closer comparison between traditional immigrants (British) and new Asian immigrants (Vietnamese and Indian). In these comparisons, the Chinese were chosen as the default group because they are the most successful of the new immigrants. After controlling for education and other factors, few differences emerged between the Asian groups but some coefficient difference between Chinese and British/Irish did emerge

For example, there was no gender gap between the British and Irish immigrant women and men in terms of access to professional and managerial jobs in that those women who were employed were as likely to be in professional/managerial occupations as employed the British and Irish immigrant men but immigrant Chinese women were disadvantaged in this respect when compared to their men..

However, a female gender disadvantage did exist in pay between British and Irish immigrant men and women whereas no such disadvantage existed for the relatively few Chinese women who were employed in professional /managerial occupations.

For British and Irish immigrants, internet use was significantly associated with increased likelihood of employment and significantly reduced their probability of being employed in elementary occupations. For Chinese immigrants, the impact of

internet usage was less, not affecting the probability of employment significantly but moderately reducing the probability of being employed in elementary occupations

For both groups, higher education qualifications raised the likelihood of: employment; employment in professional/managerial occupations; and, for those employed as professionals or managers, a high income. However, the higher education effects were less for Chinese immigrants compared to British and Irish immigrants.

Finally, Chinese immigrants, even when they had good English, were at a considerable disadvantage with respect to all the outcomes: purely on language skills compared to the British/Irish.

When the two groups were compared for overall differences in outcomes only 6 percent could be explained by coefficient differences between the groups. As well, there was no difference between employed Chinese and British immigrants in terms of their representation in professional and managerial occupations. However, only 14.4 percent of employed British immigrants, compared to 19.2 percent of Chinese immigrants, were in elementary occupations: of this difference 48 percent could be explained by coefficient differences between the groups.

Lastly, 47.2 percent of British immigrants who were employed in professional and managerial occupations, compared to 34.3 percent of Chinese immigrants, had a high income: of this difference of 12.9 points, 33 percent could be explained by coefficient differences the remainder being due to differences between British and Chinese in terms of attributes.

In the opening section of the paper we compared the Australian experience with of immigration with the UK. While it is unwise to over-generalize in these matters, it appears that the UK experience with immigrants is more predictable (follows a more expected path) than in Australia. UK immigrants appear to be fulfilling the standard function of immigrants all around the world; that is to supplement the existing population but not to exceed them in terms of economic performance. However, in Australia, the overall dominance of the white- Australian born population appears to be ending. Work cited in this paper and other work by Borooah and Mangan (2006) indicate that ancestry is no longer a strong indicator of economic success in Australia. For example, Borooah and Mangan (2006) found that East Asian men and women had a higher success rate in professional and managerial occupations than

the local born. Clearly there are instances in both countries of some ethnic groups doing badly but in Australia labour market performance appears to be more closely associated with education level and time of arrival rather than ancestry.

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Table 1

Immigrants to Australia, by Ancestry

	Percentage of Persons of Different Ancestries		
Ancestry↓	**New Immigrants[+]**	**Settled Immigrants[++]**	**Australian Born**
Oceania	5	2	1
Australian	1	1	40
New Zealander	3	1	0
British & Irish	23	38	46
Dutch	1	2	1
German	2	3	2
Other Western and Northern European[1]	2	2	0
Italian	1	6	3
Maltese	0	1	0
Other Southern European[2]	1	2	0
Greek	0	4	2
Other South Eastern European[3]	5	5	1
Polish	0	2	0
Other Southern and Eastern European[4]	1	3	0
Lebanese	1	2	1
Other North African and Middle Eatern[5]	5	3	0
Vietnamese	2	3	0
Filipino	3	2	0
Chinese	19	9	1
Other East Asian[6]	9	3	0
Indian	6	2	0
Other South and Central Asian[7]	5	2	0
Americas[8]	2	2	0
Sub-Saharan Africa	4	1	0
Aggregate	**100 [5,923]**	**100 [31,565]**	**100 [128,618]**

[+] New immigrants: arrived in Australia in, or after, 1996. [++]Settled Immigrants: arrived in Australia before1996. (Those who did not state their year of arrival were excluded)

[1]All Western European and Scandinavian countries (excluding Holland and Germany) [2] Portuguese, Spanish, Catalan, Basque

[3]Albanian, Bosnian, Bulgarian, Croatian, Macedonian, Moldovan, Montenegrin, Romanian, Serbian, Slovenian

[4]Belarusan, Czech, Estonian, Hungarian, Latvian, Lithuanian, Russian, Slovak, Ukrainian

[5]Algerian, Egyptian, Iranian, Iraqi, Jewish, Jordanian, Kuwaiti, Libyan, Moroccan, Palestinian Saudi Arabian, Sudanese, Tunisian, Turkish [6]Burmese, Japanese, Korean, Malay, Thai, Tibetan etc

[7]Afghan, Bengali, Pakistani, Sinhalese, Tamil [8]North, Central, and South America, including the Caribbean

Source: 2001 Australian Census

Table 2

Percentage of Immigrants to Australia living in Low and High Income Households, by Ancestry

	Low Income Household*			High Income Households**		
Ancestry↓	**New Immigrants+**	**Settled Immigrants++**	**Australian Born**	**New Immigrants**	**Settled Immigrants**	**Australian Born**
Oceanian	21	25	51	33	39	11
Australian	25	20	27	42	50	39
New Zealander	20	25	12	58	37	49
British & Irish	14	33	28	58	35	37
Dutch	8	41	20	55	27	42
German	20	42	28	49	32	35
Other Western and Northern European[1]	11	35	24	54	33	40
Italian	15	40	17	32	29	43
Maltese	-	40	20	-	28	38
Other Southern European[2]	20	29	24	30	43	35
Greek	14	37	19	38	32	43
Other South Eastern European[3]	41	36	18	17	31	45
Polish	13	39	22	67	30	42
Other Southern and Eastern European[4]	12	48	22	50	28	53
Lebanese	56	31	33	13	27	30
Other	42	37	38	20	30	30

North African and Middle Eatern[5]						
Vietnamese	41	29	34	22	36	27
Filipino	22	23	23	49	49	49
Chinese	34	25	27	28	43	40
Other East Asian[6]	33	27	27	26	33	24
Indian	18	12	13	50	61	59
Other South and Central Asian[7]	39	15	17	18	50	37
Americas[8]	15	24	24	51	43	34
Sub-Saharan Africa	29	30	29	49	47	44
Aggregate	**26**	**33**	**27**	**40**	**36**	**38**

*Low income households: households with income less than half the median, weekly, Australian household income of $650 per week. **High income households: households with income more than twice the median, weekly, Australian household income of $650 per week.

+ New immigrants: arrived in Australia in, or after, 1996. ++Settled Immigrants: arrived in Australia before1996.

[1]All Western European and Scandinavian countries (excl. Holland and Germany) [2] Portuguese, Spanish, Catalan, Basque

[3]Albanian, Bosnian, Bulgarian, Croatian, Macedonian, Moldovan, Montenegrin, Romanian, Serbian, Slovenian

[4]Belarusan, Czech, Estonian, Hungarian, Latvian, Lithuanian, Russian, Slovak, Ukrainian

[5]Algerian, Egyptian, Iranian, Iraqi, Jewish, Jordanian, Kuwaiti, Libyan, Moroccan, Palestinian, Saudi Arabian, Sudanese, Tunisian, Turkish [6]Burmese, Japanese, Korean, Malay, Thai, Tibetan etc

[7]Afghan, Bengali, Pakistani, Sinhalese, Tamil [8]North, Central, and South America, including the Caribbean

Source: 2001 Australian Census

Table 3

Employment and Unemployment Rates among Immigrants to Australia, by Ancestry

	Employment Rate*			**Unemployment Rate****		
Ancestry↓	**New Immigrants+**	**Settled Immigrants++**	**Australian Born**	**New Immigrants**	**Settled Immigrants**	**Australian Born**
Oceanian	58	59	44	16	13	16
Australian	54	63	61	30	7	7
New Zealander	73	71	64	10	5	3
British & Irish	71	57	60	8	6	7
Dutch	69	46	75	3	6	7
German	61	45	66	12	7	5
Other Western and Northern European[1]	48	54	69	17	7	8
Italian	64	38	75	4	5	5
Maltese	0	42	79	-	5	3
Other Southern European[2]	61	56	59	5	8	10
Greek	42	37	74	0	6	8
Other South Eastern European[3]	41	48	71	20	7	9
Polish	50	46	66	20	8	7
Other Southern and Eastern European[4]	58	42	72	12	6	9
Lebanese	35	39	52	20	16	15
Other North African and Middle	31	48	59	35	12	11

Eatern[5]						
Vietnamese	31	52	28	38	17	11
Filipino	53	65	29	6	6	29
Chinese	32	59	58	22	7	7
Other East Asian[6]	30	56	54	17	9	22
Indian	59	70	60	10	6	11
Other South and Central Asian[7]	46	65	58	17	6	7
Americas[8]	62	63	66	13	7	7
Sub-Saharan Africa	50	65	66	21	6	10
Aggregate	**51**	**53**	**61**	**14**	**7**	**7**

*Employment Rate: Percentage of persons in group who are employed: employer, employee, own-account worker, contributing family worker. **Unemployment Rate: Percentage of persons in the labour force who are jobless and looking for either full-time or part-time work.

+ New immigrants: arrived in Australia in, or after, 1996. ++Settled Immigrants: arrived in Australia before1996.

[1]All Western European and Scandinavian countries (excl. Holland and Germany) [2] Portuguese, Spanish, Catalan, Basque

[3]Albanian, Bosnian, Bulgarian, Croatian, Macedonian, Moldovan, Montenegrin, Romanian, Serbian, Slovenian

[4]Belarusan, Czech, Estonian, Hungarian, Latvian, Lithuanian, Russian, Slovak, Ukrainian

[5]Algerian, Egyptian, Iranian, Iraqi, Jewish, Jordanian, Kuwaiti, Libyan, Moroccan, Palestinian Saudi Arabian, Sudanese, Tunisian, Turkish. [6]Burmese, Japanese, Korean, Malay, Thai, Tibetan etc

[7]Afghan, Bengali, Pakistani, Sinhalese, Tamil. [8]North, Central, and South America, including the Caribbean.

Source: 2001 Australian Census

Table 4

Occupations of Employed Immigrants to Australia, by Ancestry

	Percentage of Employed Persons in:					
	Elementary Occupations or Labourers*			**Professional or Managerial Occupations ****		
Ancestry↓	**New Immigrants+**	**Settled Immigrants++**	**Australian Born**	**New Immigrants**	**Settled Immigrants**	**Australian Born**
Oceanian	34	22	46	12	22	21
Australian	0	14	20	29	47	37
New Zealander	23	14	10	44	44	52
British & Irish	15	14	17	53	45	42
Dutch	14	12	15	66	42	37
German	10	15	19	60	44	40
Other Western and Northern European[1]	11	8	19	61	51	39
Italian	11	24	20	52	32	34
Maltese		27	17		27	27
Other Southern European[2]	20	25	13	35	27	34
Greek	43	24	18	29	33	42
Other South Eastern European[3]	39	29	17	19	24	39
Polish	0	16	11	88	43	50
Other Southern and Eastern European[4]	12	14	8	44	45	49
Lebanese	27	24	20	33	35	41
Other North African and	20	21	23	37	42	41

Middle Eatern[5]						
Vietnamese	52	20	35	19	33	35
Filipino	45	28	20	18	27	30
Chinese	21	18	19	44	49	46
Other East Asian[6]	34	26	28	32	38	28
Indian	25	13	28	45	53	50
Other South and Central Asian[7]	45	14	16	28	49	45
Americas[8]	21	21	22	54	43	41
Sub-Saharan Africa	19	18	27	56	41	22
Aggregate	**22**	**17**	**18**	**44**	**42**	**40**

[+] New immigrants: arrived in Australia in, or after, 1996. [++]Settled Immigrants: arrived in Australia before1996.

Residual Occupations: Skilled manual or non-manual.

[*]Elementary clerical, sales, and service workers, labourers and related workers. [**]Managers and Administrators, Professionals, Associate Professionals.

[1]All Western European and Scandinavian countries (excl. Holland and Germany) [2] Portuguese, Spanish, Catalan, Basque

[3]Albanian, Bosnian, Bulgarian, Croatian, Macedonian, Moldovan, Montenegrin, Romanian, Serbian, Slovenian

[4]Belarusan, Czech, Estonian, Hungarian, Latvian, Lithuanian, Russian, Slovak, Ukrainian

[5]Algerian, Egyptian, Iranian, Iraqi, Jewish, Jordanian, Kuwaiti, Libyan, Moroccan, Palestinian Saudi Arabian, Sudanese, Tunisian, Turkish [6]Burmese, Japanese, Korean, Malay, Thai, Tibetan etc

[7]Afghan, Bengali, Pakistani, Sinhalese, Tamil. [8]North, Central, and South America, including the Caribbean

Source: 2001 Australian Census

Table 5

Education Levels of Immigrants to Australia, by Ancestry

	Percentage of Persons, 25 years of age or above, with:					
	Low Education Level (less than Certificate level)			**High Education Level (Degree or above)**		
Ancestry↓	**New Immigrants+**	**Settled Immigrants++**	**Australian Born**	**New Immigrants**	**Settled Immigrants**	**Australian Born**
Oceanian	73	74	87	10	5	2
Australian	38	46	61	63	31	13
New Zealander	49	55	42	27	15	21
British & Irish	36	53	55	30	17	17
Dutch	21	56	50	45	10	18
German	16	45	56	43	13	15
Other Western and Northern European[1]	16	44	47	55	16	20
Italian	27	80	52	27	4	17
Maltese	0	81	55	100	2	9
Other Southern European[2]	44	63	44	28	11	23
Greek	54	83	44	31	5	25
Other South Eastern European[3]	43	69	45	20	7	21
Polish	14	54	42	50	19	29
Other Southern and Eastern European[4]	28	49	36	43	21	32
Lebanese	89	78	53	9	6	16
Other North	58	58	41	28	24	37

African and Middle Eatern[5]						
Vietnamese	84	75	100	13	15	0
Filipino	42	37	67	42	41	0
Chinese	42	55	39	39	28	44
Other East Asian[6]	39	62	57	46	24	14
Indian	21	32	41	58	49	6
Other South and Central Asian[7]	38	41	40	47	31	31
Americas[8]	27	42	52	56	29	17
Sub-Saharan Africa	32	47	38	31	22	29
Aggregate	**40**	**58**	**57**	**36**	**17**	**16**

[+] New immigrants: arrived in Australia in, or after, 1996. [++]Settled Immigrants: arrived in Australia before1996.

Residual education level: Certificate or above, but less than degree level.

[1]All Western European and Scandinavian countries (excl Holland and Germany) [2] Portuguese, Spanish, Catalan, Basque

[3]Albanian, Bosnian, Bulgarian, Croatian, Macedonian, Moldovan, Montenegrin, Romanian, Serbian, Slovenian

[4]Belarusan, Czech, Estonian, Hungarian, Latvian, Lithuanian, Russian, Slovak, Ukrainian

[5]Algerian, Egyptian, Iranian, Iraqi, Jewish, Jordanian, Kuwaiti, Libyan, Moroccan, Palestinian Saudi Arabian, Sudanese, Tunisian, Turkish [6]Burmese, Japanese, Korean, Malay, Thai, Tibetan etc

[7]Afghan, Bengali, Pakistani, Sinhalese, Tamil [8]North, Central, and South America, including the Caribbean.

Source: 2001 Australian Census

Table 6

Home Ownership, Home Size and Immigrants to Australia, by Ancestry

	Percentage who are home owners*			**Percentage living in homes with <3 bedrooms****		
Ancestry↓	**New Immigrants+**	**Settled Immigrants++**	**Australian Born**	**New Immigrants+**	**Settled Immigrants+ +**	**Australian Born**
Oceanian	17	37	11	24	23	23
Australian	55	67	70	16	16	15
New Zealander	21	62	56	24	24	13
British & Irish	38	73	70	30	21	18
Dutch	39	79	66	34	21	14
German	28	77	69	32	26	18
Other Western and Northern European[1]	18	75	66	46	25	17
Italian	30	90	81	33	12	11
Maltese	0	90	77	0	11	12
Other Southern European[2]	33	71	68	38	19	15
Greek	68	86	79	8	16	14
Other South Eastern European[3]	35	81	80	44	18	16
Polish	65	81	74	38	23	14
Other Southern and Eastern European[4]	35	73	74	39	28	19
Lebanese	45	65	67	25	16	13
Other North	31	65	67	42	24	17

African and Middle Eatern[5]						
Vietnamese	40	67	73	30	13	11
Filipino	44	71	67	33	17	18
Chinese	41	79	80	40	19	14
Other East Asian[6]	26	63	55	45	23	21
Indian	35	76	78	43	17	14
Other South and Central Asian[7]	22	70	64	51	17	15
Americas[8]	28	58	58	36	22	26
Sub-Saharan Africa	28	61	59	31	21	18
Aggregate	**34**	**74**	**70**	**36**	**20**	**17**

*Home owners: fully owned; being purchased; being purchased under a rent/buy scheme. ** Including bed sitters.

+ New immigrants: arrived in Australia in, or after, 1996. ++Settled Immigrants: arrived in Australia before1996.

[1]All Western European and Scandinavian countries (excl Holland and Germany) [2] Portuguese, Spanish, Catalan, Basque

[3]Albanian, Bosnian, Bulgarian, Croatian, Macedonian, Moldovan, Montenegrin, Romanian, Serbian, Slovenian

[4]Belarusan, Czech, Estonian, Hungarian, Latvian, Lithuanian, Russian, Slovak, Ukrainian

[5]Algerian, Egyptian, Iranian, Iraqi, Jewish, Jordanian, Kuwaiti, Libyan, Moroccan, Palestinian Saudi Arabian, Sudanese, Tunisian, Turkish [6]Burmese, Japanese, Korean, Malay, Thai, Tibetan etc

[7]Afghan, Bengali, Pakistani, Sinhalese, Tamil. [8]North, Central, and South America, including the Caribbean.

Source: 2001 Australian Census

Table 7

Computer, and Internet Usage and Immigrants to Australia, by Ancestry

	Percentage who use a computer at home			**Percentage who use the internet**		
Ancestry↓	**New Immigrants+**	**Settled Immigrants++**	**Australian Born**	**New Immigrants+**	**Settled Immigrants++**	**Australian Born**
Oceanian	24	26	11	22	27	12
Australian	53	56	45	26	56	37
New Zealander	43	44	49	50	43	36
British & Irish	59	46	46	65	43	40
Dutch	70	40	55	89	32	53
German	68	37	45	73	33	41
Other Western and Northern European[1]	72	47	50	79	41	50
Italian	64	15	49	58	13	43
Maltese	100	18	45	100	14	44
Other Southern European[2]	49	39	60	66	36	46
Greek	32	13	48	28	11	46
Other South Eastern European[3]	43	23	49	46	21	44
Polish	71	32	59	82	30	54
Other Southern and Eastern European[4]	65	30	57	68	28	56
Lebanese	19	16	40	16	13	34
Other North African and	38	38	46	39	36	43

Middle Eatern[5]						
Vietnamese	34	32	40	26	29	25
Filipino	50	49	51	43	45	41
Chinese	68	49	54	68	47	44
Other East Asian[6]	64	46	45	69	46	32
Indian	68	61	51	70	60	40
Other South and Central Asian[7]	55	58	53	55	56	39
Americas[8]	68	55	46	82	54	41
Sub-Saharan Africa	70	52	49	71	47	42
Aggregate	**58**	**40**	**45**	**60**	**37**	**39**

[+] New immigrants: arrived in Australia in, or after, 1996. [++]Settled Immigrants: arrived in Australia before1996.

[1]All Western European and Scandinavian countries (excl. Holland and Germany) [2] Portuguese, Spanish, Catalan, Basque

[3]Albanian, Bosnian, Bulgarian, Croatian, Macedonian, Moldovan, Montenegrin, Romanian, Serbian, Slovenian

[4]Belarusan, Czech, Estonian, Hungarian, Latvian, Lithuanian, Russian, Slovak, Ukrainian

[5]Algerian, Egyptian, Iranian, Iraqi, Jewish, Jordanian, Kuwaiti, Libyan, Moroccan, Palestinian, Saudi Arabian, Sudanese, Tunisian, Turkish. [6]Burmese, Japanese, Korean, Malay, Thai, Tibetan etc

[7]Afghan, Bengali, Pakistani, Sinhalese, Tamil. [8]North, Central, and South America, including the Caribbean

Source: 2001 Australian Census

Table 8

Logit Estimates of the Economic Life Equations

	Employed Equation[1]	Professional/ Managerial Occupations Equation[2]	Elementary workers and labourers Equation[3]	High Personal Income Equation[4]
Sex	-0.857***	-0.136***	0.318***	-1.025***
	(47.08)	(7.45)	(15.23)	(37.54)
Internet use	0.842***	0.981***	-0.714***	1.002***
	(42.80)	(51.98)	(31.95)	(32.38)
Age	-0.046***	0.146***	-0.124***	0.143***
	(9.64)	(49.65)	(46.34)	(26.57)
Medium education	0.631***	0.472***	-1.037***	0.384***
	(24.90)	(21.09)	(34.93)	(9.86)
High education	1.027***	2.624***	-2.256***	1.225***
	(28.81)	(80.97)	(35.47)	(32.53)
English spoken at home	0.791***	0.629***	-0.553***	0.929***
	(13.54)	(7.06)	(7.02)	(5.21)
Good English	0.684***	0.446***	-0.378***	0.629***
	(12.74)	(5.10)	(5.04)	(3.52)
States:				
ACT	0.050	0.056	-0.069	0.362***
	(0.66)	(0.84)	(0.80)	(4.03)
Victoria	0.042*	-0.071***	0.056**	-0.226***
	(1.77)	(3.01)	(2.00)	(6.52)
Queensland	-0.053**	-0.158***	0.108***	-0.389***
	(2.09)	(6.12)	(3.62)	(9.97)
Western	-0.026	-0.055*	0.085**	-0.272***

Australia				
	(0.82)	(1.72)	(2.28)	(5.66)
South Australia	-0.058*	0.007	0.050	-0.489***
	(1.69)	(0.18)	(1.20)	(9.18)
Tasmania	-0.278***	-0.119*	0.026	-0.607***
	(5.05)	(1.93)	(0.36)	(6.54)
Northern Territory	0.343***	0.011	-0.165	0.018
	(3.44)	(0.12)	(1.53)	(0.13)
Ancestry:				
Oceanic	-0.775***	0.018	0.638***	-0.546
	(5.88)	(0.09)	(3.97)	(1.15)
New Zealander	0.271	0.925**	-0.875	0.165
	(0.47)	(2.15)	(1.38)	(0.25)
British Isles	0.008	0.068***	-0.059**	-0.010
	(0.34)	(3.07)	(2.30)	(0.32)
Dutch	0.002	-0.001	-0.368***	0.139
	(0.01)	(0.01)	(2.65)	(0.84)
German	0.155**	0.075	0.059	0.161*
	(2.27)	(1.16)	(0.80)	(1.66)
Other North European	0.249	-0.132	0.120	0.004
	(1.43)	(0.86)	(0.70)	(0.02)
Italian	0.388***	-0.071	-0.102	0.050
	(6.04)	(1.21)	(1.59)	(0.55)
Maltese	0.312**	-0.270*	-0.325**	-0.080
	(1.98)	(1.84)	(2.06)	(0.33)
Other Southern European	-0.439	0.105	-0.771**	-0.599
	(1.54)	(0.36)	(2.05)	(1.26)

Greek	0.155*	0.278***	-0.145	0.226*
	(1.71)	(3.34)	(1.50)	(1.92)
Other South East European	0.169	0.160	-0.320**	0.303*
	(1.34)	(1.39)	(2.37)	(1.83)
Polish	-0.313**	0.257	-0.602**	-0.286
	(1.99)	(1.55)	(2.47)	(1.35)
East European	-0.172	-0.143	-0.622***	0.033
	(1.20)	(0.98)	(2.72)	(0.17)
Lebanese	-0.368**	0.633***	-0.411**	0.263
	(2.08)	(3.73)	(2.11)	(1.03)
North African and Middle East	-0.483*	0.169	-0.058	-0.518
	(1.81)	(0.66)	(0.23)	(1.52)
Vietnamese	0.023	1.123**	-0.155	-0.269
	(0.13)	(2.01)	(0.29)	(0.95)
Filipino	0.164	0.376	-0.535	-0.298
	(0.12)	(0.48)	(0.66)	(0.22)
Chinese	-0.059	0.145	-0.139	-0.284
	(0.29)	(0.86)	(0.74)	(1.33)
Other East Asian	-0.293	-0.075	0.095	-0.481
	(0.56)	(0.15)	(0.21)	(0.61)
Indian	-0.560	0.601*	0.475	0.564
	(1.42)	(1.77)	(1.38)	(1.26)
Other South Asian	0.086	-0.099	-0.472	-0.286
	(0.18)	(0.24)	(0.98)	(0.52)
The Americas	-0.231	0.201	0.023	-0.283
	(0.60)	(0.62)	(0.06)	(0.61)
Sub Saharan Africa	-0.857*	-0.604	-0.231	1.468

	(1.81)	(1.22)	(0.59)	(1.56)
Immigrant	0.821***	-0.466*	-0.460*	-0.505
	(3.95)	(1.87)	(1.75)	(1.18)
Immigrant-Education Interaction:				
Immigrant with Higher Education	-1.050***	-1.011***	1.165***	-0.283
	(10.35)	(8.19)	(7.54)	(1.43)
Immigrant with Medium Education	-0.453***	-0.146	0.448***	-0.361
	(4.13)	(1.13)	(3.23)	(1.57)
Immigrant-Ancestry Interaction:				
Oceanic	0.842***	-0.469	-0.407	0.159
	(3.79)	(1.62)	(1.43)	(0.27)
New Zealand	0.249	-0.777	0.929	-0.098
	(0.41)	(1.63)	(1.35)	(0.14)
British Isles	0.155	-0.087	0.256	-0.088
	(1.02)	(0.55)	(1.26)	(0.40)
Dutch	0.092	-0.023	0.457	-0.639**
	(0.42)	(0.10)	(1.54)	(1.98)
German	-0.201	-0.175	0.246	-0.537*
	(1.04)	(0.87)	(0.95)	(1.89)
Other North European	-0.329	0.438*	-0.514	-0.123
	(1.29)	(1.76)	(1.55)	(0.35)
Italian	-0.172	-0.003	0.680***	-0.530*
	(0.96)	(0.02)	(2.98)	(1.93)
Maltese	-0.406	-0.052	1.067***	0.087

	(1.59)	(0.18)	(3.42)	(0.19)
Other Southern European	0.588*	-0.622*	1.278***	0.911
	(1.70)	(1.70)	(2.82)	(1.55)
Greek	-0.273	-0.268	0.638**	-0.685**
	(1.42)	(1.27)	(2.56)	(2.18)
Other South East European	-0.090	-0.711***	1.062***	-0.409
	(0.44)	(3.28)	(4.17)	(1.28)
Polish	0.125	-0.494*	1.022***	0.110
	(0.49)	(1.79)	(2.80)	(0.30)
East European	0.146	-0.024	0.759**	-0.254
	(0.62)	(0.10)	(2.19)	(0.75)
Lebanese	-0.328	-0.268	0.720**	-0.730*
	(1.31)	(0.96)	(2.23)	(1.71)
North African and Middle East	-0.176	-0.358	0.451	0.048
	(0.56)	(1.11)	(1.30)	(0.11)
Vietnamese		-1.135*	0.095	
		(1.92)	(0.16)	
Filipino	0.067	-1.718**	1.634*	0.427
	(0.05)	(2.14)	(1.93)	(0.31)
Chinese	0.190	0.037	0.307	-0.069
	(0.74)	(0.16)	(1.09)	(0.22)
Other East Asian	-0.090	-0.144	0.386	-0.139
	(0.17)	(0.27)	(0.77)	(0.17)
Indian	0.744*	-0.872**	0.054	-0.374
	(1.72)	(2.25)	(0.13)	(0.73)
Other South Asian	-0.069	-0.189	1.122**	0.041

	(0.13)	(0.41)	(2.10)	(0.07)
The Americas	0.343	-0.253	0.759*	-0.017
	(0.79)	(0.66)	(1.68)	(0.03)
Sub Saharan Africa	0.735	0.672	0.671	-1.476
	(1.44)	(1.25)	(1.44)	(1.50)
Settled Immigrant	0.443***	-0.235**	-0.094	-0.350**
	(6.27)	(2.51)	(1.13)	(1.98)
Settled Immigrant with High Education	0.747***	0.727***	-0.658***	0.295
	(6.93)	(5.61)	(4.03)	(1.43)
Settled Immigrant with Medium Education	0.221*	0.131	-0.382***	0.198
	(1.93)	(0.98)	(2.60)	(0.83)
Constant	0.208	-6.330***	3.694***	-4.493***
	(0.82)	(20.97)	(13.70)	(7.78)
Observations	77323	73294	73294	28420

Notes to Table 8

The equations were estimated on data for all respondents to the 2001 Australian Census.

Absolute value of z-statistics in parentheses

* significant at 10% level; ** significant at 5% level; *** significant at 1% level

[1]Dependent variable = 1, if person is *employed* (i.e. is an: employer, employee, own account worker, or contributing family worker); = 0, otherwise. Estimated on data for persons 25-59 years of age

[2]Dependent variable = 1, if person is employed in a professional or management occupation; = 0, if he/she is employed otherwise. Estimated on data for all employed persons

[3]Dependent variable = 1, if person is an elementary worker; = 0, if he/she is employed otherwise. Estimated on data for all employed persons

[4]Dependent variable = 1, if a person employed in a professional or management occupation has a high income (twice, or more, median Australian income); = 0, if a person employed in a professional or management occupation does not have a high income.

Table 9

Logit Estimates of the Immigrants' Economic Life Equations:

Chinese and British Immigrants

	Employed Equation[1]	Professional/ Managerial Occupations Equation[2]	Elementary workers and labourers Equation[3]	High Personal Income Equation[4]
Sex	-0.815***	-0.066	0.277***	-1.311***
	(14.14)	(1.16)	(3.71)	(15.58)
Sex: Chinese	-0.134	-0.399***	0.085	1.095***
	(1.16)	(3.12)	(0.56)	(6.18)
Internet use	0.786***	0.994***	-0.955***	1.104***
	(13.31)	(16.76)	(12.20)	(11.22)
Internet use: Chinese	-0.743***	-0.177	0.509***	-0.127
	(5.70)	(1.22)	(2.84)	(0.56)
Age	-0.093***	0.098***	-0.099***	0.083***
	(5.84)	(8.93)	(8.35)	(4.49)
Age: Chinese	0.051	-0.011	0.049*	0.091**
	(1.52)	(0.44)	(1.86)	(2.29)
Medium education	0.454***	0.538***	-0.961***	0.048
	(7.01)	(8.76)	(11.03)	(0.45)
Medium education: Chinese	-0.234	-0.162	0.182	0.612**
	(1.57)	(1.00)	(0.90)	(2.03)
High education	0.779***	2.437***	-1.781***	0.983***
	(8.90)	(28.86)	(11.77)	(9.48)
High education: Chinese	-0.125	-0.291*	-0.234	0.462*

	(0.78)	(1.77)	(0.88)	(1.86)
English spoken at home	0.838***	0.481**	-0.230	1.165***
	(5.29)	(2.31)	(1.06)	(2.65)
Good English	0.651***	0.317*	-0.144	0.963**
	(5.55)	(1.81)	(0.88)	(2.29)
Chinese Immigrant	-0.665	0.971	-2.073**	-5.265***
	(0.64)	(1.16)	(2.28)	(3.88)
Settled immigrant	0.245**	-0.185**	-0.141	-0.424***
	(2.45)	(1.97)	(1.14)	(3.21)
Settled immigrant: Chinese	0.609***	0.515***	-0.037	0.777***
	(3.78)	(2.73)	(0.17)	(2.98)
Constant	2.642***	-5.556***	2.917***	-3.327***
	(5.21)	(13.50)	(6.63)	(4.47)
Observations	10052	8679	8679	3877

Notes to Table 9

The equations were estimated on data in the 2001 Australian Census for Chinese (4,085) and British and Irish (13,886) immigrants.

Absolute value of z-statistics in parentheses

* significant at 10% level; ** significant at 5% level; *** significant at 1% level.

[1]Dependent variable = 1, if person is *employed* (i.e. is an: employer, employee, own account worker, or contributing family worker); = 0, otherwise. Estimated on data for persons 25-59 years of age.

[2]Dependent variable = 1, if person is employed in a professional or management occupation; = 0, if he/she is employed otherwise. Estimated on data for all employed persons.

[3]Dependent variable = 1, if person is an elementary worker; = 0, if he/she is employed otherwise. Estimated on data for all employed persons.

[4]Dependent variable = 1, if a person employed in a professional or management occupation has a high income (twice, or more, median Australian income); = 0, if a person employed in a professional or management occupation does not have a high income.

Table 10

Logit Estimates of the Immigrants' Economic Life Equations:

Chinese and Vietnamese Immigrants

	Employed Equation[1]	Professional/ Managerial Occupations Equation[2]	Elementary workers and labourers Equation[3]	High Personal Income Equation[4]
Sex	-1.116***	-0.168	0.688***	-0.092
	(6.40)	(0.68)	(2.85)	(0.25)
Sex: Chinese	0.154	-0.298	-0.334	-0.133
	(0.76)	(1.09)	(1.21)	(0.33)
Internet use	0.482*	0.869***	-0.455	0.689
	(1.70)	(3.03)	(1.39)	(1.47)
Internet use: Chinese	-0.491	-0.050	-0.014	0.276
	(1.62)	(0.16)	(0.04)	(0.54)
Age	-0.038	0.099**	-0.068	0.155*
	(0.73)	(2.01)	(1.52)	(1.67)
Age: Chinese	0.002	-0.013	0.019	0.019
	(0.04)	(0.24)	(0.37)	(0.20)
Medium education	0.446	0.104	-0.584	0.216
	(1.49)	(0.29)	(1.47)	(0.31)
Medium education: Chinese	-0.276	0.278	-0.205	0.415
	(0.85)	(0.71)	(0.47)	(0.55)
High education	1.114***	2.279***	-1.879***	0.971**
	(3.13)	(7.35)	(3.65)	(2.04)
High education: Chinese	-0.521	-0.130	-0.158	0.445

	(1.38)	(0.39)	(0.28)	(0.85)
English spoken at home	1.110***	0.541**	0.025	1.452***
	(5.75)	(2.41)	(0.10)	(3.22)
Good English	0.862***	0.273*	-0.104	1.189***
	(8.31)	(1.71)	(0.70)	(2.87)
Chinese Immigrant	0.588	1.384	-0.769	-0.404
	(0.32)	(0.75)	(0.45)	(0.12)
Settled immigrant	0.768**	0.571	-1.194***	1.223
	(2.48)	(0.94)	(2.83)	(1.05)
Settled immigrant: Chinese	0.044	-0.241	0.997**	-0.882
	(0.13)	(0.39)	(2.18)	(0.74)
Constant	1.226	-5.923***	1.613	-8.373***
	(0.76)	(3.48)	(1.06)	(2.58)
Observations	2954	2276	2276	978

Notes to Table 10

The equations were estimated on data in the 2001 Australian Census for Chinese (4,085) and Vietnamese (1,089) immigrants.

Absolute value of z-statistics in parentheses

* significant at 10% level; ** significant at 5% level; *** significant at 1% level.

[1]Dependent variable = 1, if person is *employed* (i.e. is an: employer, employee, own account worker, or contributing family worker); = 0, otherwise. Estimated on data for persons 25-59 years of age.

[2]Dependent variable = 1, if person is employed in a professional or management occupation; = 0, if he/she is employed otherwise. Estimated on data for all employed persons.

[3]Dependent variable = 1, if person is an elementary worker; = 0, if he/she is employed otherwise. Estimated on data for all employed persons.

[4]Dependent variable = 1, if a person employed in a professional or management occupation has a high income (twice, or more, median Australian income); = 0, if a person employed in a professional or management occupation does not have a high income.

Table 11

Logit Estimates of the Immigrants' Economic Life Equations: Chinese and Indian Immigrants

	Employed Equation[1]	Professional/ Managerial Occupations Equation[2]	Elementary workers and labourers Equation[3]	High Personal Income Equation[4]
Sex	-1.049***	-0.008	-0.011	-0.584**
	(5.08)	(0.04)	(0.05)	(2.04)
Sex: Chinese	0.096	-0.464**	0.371	0.359
	(0.42)	(2.04)	(1.31)	(1.10)
Internet use	0.570**	1.022***	-0.354	1.201***
	(2.39)	(4.35)	(1.19)	(3.08)
Internet use: Chinese	-0.549**	-0.220	-0.103	-0.230
	(2.07)	(0.81)	(0.30)	(0.52)
Age	0.082	0.096**	-0.125***	0.222***
	(1.35)	(2.49)	(2.96)	(3.18)
Age: Chinese	-0.120*	-0.009	0.077	-0.049
	(1.78)	(0.20)	(1.59)	(0.63)
Medium education	0.361	0.765***	-1.379***	-0.734
	(1.20)	(2.62)	(3.67)	(1.41)
Medium education: Chinese	-0.165	-0.397	0.589	1.373**
	(0.50)	(1.21)	(1.41)	(2.32)
High education	0.395	1.818***	-1.289***	0.906**
	(1.52)	(7.11)	(4.27)	(2.07)
High education: Chinese	0.235	0.313	-0.735**	0.514

	(0.80)	(1.07)	(1.97)	(1.04)
English spoken at home	0.864***	0.683***	-0.204	1.470***
	(5.07)	(3.15)	(0.87)	(3.05)
Good English	0.769***	0.362**	-0.086	1.062**
	(6.47)	(2.00)	(0.51)	(2.32)
Chinese Immigrant	3.786*	1.798	-3.150*	0.094
	(1.84)	(1.23)	(1.94)	(0.04)
Settled immigrant	0.649***	0.560**	-0.877***	0.293
	(2.90)	(2.54)	(3.30)	(0.91)
Settled immigrant: Chinese	0.186	-0.245	0.689**	0.040
	(0.72)	(0.89)	(2.13)	(0.10)
Constant	-1.928	-6.391***	3.951***	-8.737***
	(1.04)	(5.03)	(2.79)	(3.67)
Observations	2885	2375	2375	1126

Notes to Table 11

The equations were estimated on data in the 2001 Australian Census for Chinese (4,085) and Indian (1,089) immigrants.

Absolute value of z-statistics in parentheses

* significant at 10% level; ** significant at 5% level; *** significant at 1% level.

[1]Dependent variable = 1, if person is *employed* (i.e. is an: employer, employee, own account worker, or contributing family worker); = 0, otherwise. Estimated on data for persons 25-59 years of age.

[2]Dependent variable = 1, if person is employed in a professional or management occupation; = 0, if he/she is employed otherwise. Estimated on data for all employed persons.

[3]Dependent variable = 1, if person is an elementary worker; = 0, if he/she is employed otherwise. Estimated on data for all employed persons.

[4]Dependent variable = 1, if a person employed in a professional or management occupation has a high income (twice, or more, median Australian income); = 0, if a person employed in a professional or management occupation does not have a high income.

Table 12

The Decomposition of Outcome Rates

Between British and Chinese Immigrants to Australia

Outcome↓	Observed outcome rate for British immigrants (%)	Observed outcome rate for Chinese immigrants (%)	Proportion of observed difference due to coefficient differences between British and Chinese immigrants (%)	Proportion of observed difference due to attribute differences between British and Chinese immigrants (%)
Employment[1]	76.1	67.7	6	94
Professional and Managerial Occupations[2]	43.7	43.6	-	-
Elementary Occupations[3]	14.4	19.2	48	52
High Income[4]	47.2	34.3	33	67

[1] persons 25-59 years of age

[2] persons employed in a professional or management occupations

[3] persons employed in a professional or management occupations

[4] persons employed in a professional or management occupation having a high income (twice, or more, median Australian income)